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PHARMACY and PHARMACOLOGY

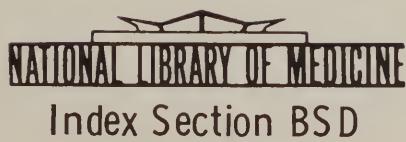
MEDLARS Indexing Instructions

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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PHARMACY AND PHARMACOLOGY
MEDLARS
Indexing Instructions

by

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1971

PREFACE

Since so much active research in medicine today is devoted to drugs, their pharmacology and therapeutic use, it is natural then, in turn, that much of the literature indexed in INDEX MEDICUS be devoted to journals from the fields of pharmacy, pharmacology and drug therapy, with an important offshoot, the field of toxicology.

Because of the widespread interest in drugs and their effects, we have compiled this brochure entitled PHARMACY AND PHARMACOLOGY: INDEXING INSTRUCTIONS. Its purpose is to give MEDLARS Analysts hints on approaches to the indexing and retrieval of articles in the aforementioned fields.

This indexing guide is intended primarily for the use of MEDLARS Analysts at the National Library of Medicine and at MEDLARS and Indexing Centers.

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PHARMACY AND PHARMACOLOGY
INDEXING INSTRUCTIONS

Scope of Pharmacology

In the etymological sense of the word, pharmacology is the study of drugs: pharmacon, drug and logos, study. As defined by Goodman and Gilman it is the sum of all "knowledge of the history, source, physical and chemical properties, compounding, biochemical and physiological effects, mechanisms of actions, absorption, distribution, biotransformation and excretion, and therapeutic and other uses of drugs."

In a practical and professional sense, however, pharmacology and pharmacy are independent disciplines with the emphasis of pharmacology on the study of the action of drugs and the emphasis of pharmacy on the drug from its source to its ultimate destination (the patient): preparation, packaging, storage and distribution.

MEDICAL SUBJECT HEADINGS (MeSH) contains a variety of headings which to a MEDLARS analyst would be arrayed thus hierarchically:

DRUGS
 PHARMACOGNOSY
 PHARMACOLOGY
 *pharmacodynamics
 PHARMACY
 DRUG THERAPY
 TOXICOLOGY

Before we enter into the details of indexing instructions for pharmacy and pharmacology, we should define the subdivisions of pharmacology - in its broadest literal sense - to show the MEDLARS analyst the professional and intellectual scope of each. A brief reference will document each definition; the detailed bibliographical references will be found in the section of this manual entitled "References and Tools."

Pharmacology has been defined most broadly above and, by literal definition, includes pharmacy. As stated above also, however, pharmacology more restrictedly in practice refers to the study of drug action in biological organisms. In practice too, it is closer to the definition of pharmacodynamics as defined immediately below and as discussed on page 18.

Pharmacognosy is etymologically from the Greek for "the knowledge of drugs": pharmaco for drugs and gnosis for knowing, the same gnosis as in diagnosis and prognosis. Pharmacognosy "deals with the origin, structure and chemical composition of crude drugs. The obsolescent title "Materia Medica" includes also the action and uses, now generally called 'Pharmacology'" (Sollmann).

A broader definition speaks of it as the "science which treats of the history, production, commerce, collection, selection, identification, valuation, preservation and use of drugs and other economic materials of plant and animal origin" (Youngken). Another textbook of pharmacognosy extends the concept of "crude drug" to minerals too (Wallis).

The word "pharmacognosy" itself is little used in American literature. In the 1968, 1969 and 1970 volumes of the CUMULATED INDEX MEDICUS of a total of only 39 entries under PHARMACOGNOSY, 35 were foreign (predominantly Russian); the root "pharmacognos-" appeared in 18 of the 39 titles.

Pharmacy is the "preparing, compounding and dispensing of medicines" (Goodman & Gilman).

Pharmacodynamics is "the study of the biochemical and physiological effects of drugs and their mechanisms of action ... the absorption, distribution, biotransformation and excretion of drugs" (Goodman & Gilman).

Pharmacotherapeutics is "the use of drugs in the prevention and treatment of disease" (Goodman & Gilman).

Toxicology "is the science of the noxious effects of drugs. It is concerned not only with drugs used in therapy but also with the many other chemicals that may be responsible for household, environmental, or industrial intoxication" (Goodman & Gilman).

The Food, Drug and Cosmetic Act defines drugs as "(1) articles recognized in the official United States Pharmacopeia, official Homoeopathic Pharmacopoeia of the United States, or official National Formulary, or any supplement to any of them; and (2) articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; and (3) articles (other than food) intended to affect the structure or any function of the body of man or other animals; and (4) articles intended for use as a component of any articles specified in clause (1), (2), or (3); but does not include devices or their components, parts, or accessories."

The MEDLARS analyst will accept the term "drug" as defined above, of course, but will as usual broaden "drug" to be used interchangeably with the word "chemical" and, in fact, both "drug" and "chemical" will be used loosely to refer to all Category D terms.

Pharmaceutics as a specialty is a synonym for the word "pharmacy"; as a substance (or as the excerpt above says, "article"), it will be considered a synonym for "drug" as defined above.

INDEXING POLICY

In the fields of pharmacy and pharmacology, all the usual patterns of indexing under MEDLARS will obtain. In this field as in all others, the analyst will adhere to the policy of indexing both for publication in INDEX MEDICUS (IM) and for storage in the MEDLARS computer for retrieval upon demand (NIM or non-INDEX MEDICUS). Too, the indexer will follow the principle of depth and non-depth indexing as outlined in the MEDLARS Indexing Manual.

Obviously there is no need to repeat here what is in the Indexing Manual regarding the indexing of drugs and chemicals. All specific details concerning indexing principles for Category D (Chemicals and Drugs) are found in the MEDLARS Indexing Manual in sections 18.1 through 18.35. Instructions on headings from other categories of interest to pharmacy, pharmacology and toxicology are given throughout the manual. These instructions can be found by merely looking up the term in the index to the manual and following through as instructed.

We shall give below a brief summary of indexing the literature of pharmacy and pharmacology in the most general terms.

1. Index a drug or chemical as specifically as possible, using the term as given in MEDICAL SUBJECT HEADINGS (MeSH).
2. If a drug or chemical is not in MeSH, index under a chemical heading which applies, making it IM (i.e., indicate it for publication in INDEX MEDICUS) and also whenever possible under a function group (ANTIHYPERTENSIVES; ANALGESICS AND ANTIPYRETICS; TRANQUILIZING AGENTS; etc. - drugs with a designed action) as discussed in the article. Make this also IM. Use the same subheading for both.

3. If a drug is a compound related to a MeSH term, or a homolog of a MeSH term or a simulant or a derivative, index under the MeSH term provided it is a class of chemicals (PHENOTHIAZINES; AZOLES; SULFONAMIDES).
4. If a drug is a homolog, derivative, simulant or related compound of a MeSH term but the MeSH heading is not a plural chemical or a group name, submit the article for indexing to the Chemical Indexer who will determine the correct MeSH heading under which the article is to be indexed.
5. Index drugs and chemicals as IM and technics for determining their structure or presence in other substances or in biological matter as NIM (i.e., non-INDEX MEDICUS or indicated for storage in the computer for future retrieval).
6. Index drugs and chemicals as IM but technics for studying them or administering them experimentally or therapeutically as NIM.
7. See pages 35-40 for a list of MeSH technics and methods which are almost always NIM when a specific drug or chemical is IM.
8. If a technic for studying, analyzing or administering a drug or chemical is specific to that drug, make it NIM, whether or not the technic is stated in the title of the article.
9. If, however, the author states that the technic is new or if the author states and the analyst feels that it has a wide application beyond the specific chemical the author is writing about, the analyst may make the technic IM. This is not usual.
10. Index the chemistry or chemical structure of a drug under the name of the drug without a subheading (IM) and the coordinate CHEMISTRY (NIM).

11. See Appendix IV for specific CHEMISTRY coordinates which are almost always NIM.
12. Index the *in vitro* chemical interaction of one drug with another under the name of each drug or chemical without a subheading, making each IM. Coordinate with CHEMISTRY (NIM).
13. Index the synthesis of one drug from another (see the definition of *chem synthesis on page 16) under the name of the drug being synthesized with the subheading *chem synthesis (IM) and the name of the drug from which it is being synthesized without a subheading (IM or NIM depending upon the point of the article).

Synthesis of quinolines
from aromatic amines:

QUINOLINES *chem synthesis (IM)
AMINES (IM)

14. Index the isolation of one drug from another under the name of the drug being isolated, with the subheading *isolation & purification (IM) and the drug from which it is being isolated without a subheading (IM).

Isolation of cholesterol
from lanolin:

CHOLESTEROL *isolation &
& purification (IM)
LANOLIN (IM)

15. When indexing simple compounds for which the indexer must use two or more MeSH headings to show a coordination, index each with the same subheading, but make the pharmacologically active heading IM and the inactive one, NIM. See the Indexing Manual 18.33.
16. When indexing a drug with the subheading *administration & dosage, always try to specify as an NIM coordinate a MeSH heading to cover the type

of administration or the type of dose.

Intramuscular injection
of penicillin:

PENICILLIN *administration
& dosage (IM)
INJECTIONS, INTRAMUSCULAR (NIM)

17. Assume that all administration of drugs is oral UNLESS OTHERWISE SPECIFIED.
18. For the injurious effects of drugs or chemicals, consider the three subheading qualifiers, *adverse effects, *poisoning and *toxicity, following closely the MeSH restrictions in the definitions (see page 21-22).
19. There is a main heading ENVIRONMENTAL EXPOSURE (G3) as a Provisional Heading for 1968 and 1969. Use this as defined by MeSH in cases where the above three subheadings do not apply within the restrictions of the MeSH definitions. See page 22.
20. When indexing a chemical to induce a physiological condition or a disease state deliberately under experimental conditions, index the name of the drug or chemical without a subheading. This has been introduced as policy since the deliberate induction of an injurious effect does not fit the definition of *adverse effects, *poisoning or *toxicity. See the Indexing Manual 18.18 and 18.18.1.
21. Index known anesthetics used to induce anesthesia under the name of the anesthetic without a sub-heading (Indexing Manual 18.27). Always try to specify the specific type of anesthesia.

Halothane anesthesia:

HALOTHANE (IM)
ANESTHESIA, INHALATION (IM)

GEOGRAPHIC HEADINGS

Tend to use the MeSH Geographic Headings to locate the legislative, economic, educational, social, professional and related concepts in the field of pharmacy and pharmacology.

It is important to MEDLARS users that articles on drug legislation in France, for example, be retrieved specifically in a computer search on LEGISLATION, DRUG associated with FRANCE. A user wanting this information may not want to receive information on drug legislation in our country. To index or search under only LEGISLATION, DRUG does a user a disservice.

Similarly, if the user wants information on legislation only in this country, he does not want French legislation. Indexing or searching on only LEGISLATION, DRUG will give the user the French as well as American legislation, and so waste his time.

Using the correct Geographic Heading in the indexing operation, will enable the search to retrieve or reject at will specific geographic areas.

The following headings in MeSH in the field of pharmacy will be those for which the geographic location should be specified in indexing. Although there may be other headings to be used with good sense by the indexers, the following garner much material to which the identity of the country is pertinent.

Pharmacy Headings to be Used with MeSH Geographic Headings

CATALOGS, DRUG
CHEMICAL INDUSTRY
COMMUNITY PHARMACY SERVICE
DICTIONARIES, CHEMICAL
DICTIONARIES, PHARMACEUTIC
DIRECTORIES
DISPENSATORIES
DRUG AND NARCOTIC CONTROL
DRUG INDUSTRY
DRUG UTILIZATION (Prov)
EDUCATION, PHARMACY
EDUCATION, PHARMACY, CONTINUING
EDUCATION, PHARMACY, GRADUATE
ETHICS, PHARMACY
FEES, PHARMACEUTICAL
FORMULARIES
FORMULARIES, DENTAL
FORMULARIES, HOMEOPATHIC
FORMULARIES, HOSPITAL
HOSPITAL PHARMACY SERVICE
INSURANCE, PHARMACEUTICAL SERVICES
LEGISLATION, DRUG
LEGISLATION, PHARMACY
LICENSURE, PHARMACY
PHARMACEUTICAL SERVICES
PHARMACIES
PHARMACISTS
PHARMACY
PHARMACY ADMINISTRATION
PHARMACY AND THERAPEUTICS COMMITTEE
PHARMACOPEIAS
PHARMACOPEIAS, HOMEOPATHIC
SCHOOLS, PHARMACY
SOCIETIES, PHARMACEUTICAL
STUDENTS, PHARMACY

PROVISIONAL HEADINGS

A Provisional Heading in MEDLARS is a main subject heading which enters the system each year after the annual publication of MEDICAL SUBJECT HEADINGS (MeSH) each January. It appears usually as a new term or a new concept needed immediately for indexing and for storage within the computer until the publication of the next annual MeSH.

From the time it enters the computer until the imminent publication of MeSH, a computer count is kept on a Provisional Heading. Upon analysis of its use in indexing, a decision is made to elevate it to the status of a main heading in the forthcoming MeSH or to retain it for further use and further analysis later.

Provisional Headings serve two extremely useful purposes: (1) they give exact access to a store of large volume terms less easily scanned without the specificity of a Provisional, and (2) they furnish a fine source of new main headings for each ensuing year.

Each year the indexers and searchers are supplied with about 500 Provisional Headings for that year. Of these, more than half are drug and chemical terms.

For this reason, many Provisional Headings are available for indexing the drug literature and should be freely used by MEDLARS personnel.

Except for their designation as Provisional (as such they do not appear in the printed INDEX MEDICUS) they are subject to all indexing rules and are to be treated as any other MeSH heading. Each is assigned to a proper category and each may be paired with the subheadings available to that category.

In the arrays given on pages 32-45, the Provisional Headings are indicated (Prov).

CHECK TAGS

1. IN VITRO

The effect of a drug on the liver can be studied in two ways: (1) by administering the drug to man or animal, then taking a sample of liver tissue and examining it *in vitro* or (2) by taking a sample of human or animal tissue, administering the drug to it *in vitro* and then examining it.

Under MEDLARS, (1) is NOT checked IN VITRO but (2) is. To state it differently, in (1) the action of the drug took place *in vivo* while in (2) the action of the drug took place *in vitro*.

It is this difference that MEDLARS puts to work in separating for retrieval the routine obvious *in vitro* studies from deliberately performed and non-routine *in vitro* studies. Checking the tag IN VITRO tells the MEDLARS Search Analyst that the research was performed under the conditions illustrated in (2) above.

A detailed exposition of IN VITRO is given in the Indexing Manual 11.15-11.15.5.

Many articles in pharmacy and pharmaceutical journals will discuss chemical processes taking place in test tubes or verified in test tubes. Do NOT use IN VITRO for these.

Many articles from pharmacology journals will be on the effect of a drug or chemical on organs or organisms. Use IN VITRO only under the conditions of (2) above.

Do NOT check IN VITRO for articles on chemistry, chemical structure, chemical reactions, chemical synthesis, chemical analysis or quantitative or qualitative chemical determinations.

2. CLINICAL RESEARCH

Under MEDLARS the term "clinical research" has a restricted definition: the article must be on research done under highly controlled conditions with a distinct pre-arranged research design.

It does not refer to research done on humans as opposed to animals, nor does it refer to research on patients as opposed to healthy volunteers.

Most articles correctly checked CLINICAL RESEARCH will concern research on drugs performed under strict medical control to test the therapeutic value in a specific disease.

Double-blind studies or triple-blind studies should be examined closely, for they are usually correctly check-tagged as CLINICAL RESEARCH.

The use of PLACEBOS in a study should be examined closely, for articles involving these are usually correctly tagged CLINICAL RESEARCH.

More information on this tag is found in the Indexing Manual 11.18-11.18.5.

3. COMPARATIVE STUDY

A quotation from the Indexing Manual (11.19.1) best defines the use of this check tag: "This check tag must be used to make available for retrieval articles comparing two or more therapeutic or diagnostic procedures, or two or more determinative technics."

Do NOT tag COMPARATIVE STUDY for a comparison of the effects of a single drug on two or more organs or two or more organisms.

Check COMPARATIVE STUDY for the comparison of two or more drugs on a single organ or organism.

SUBHEADINGS

Category D

The subheadings in this section are those of particular interest to MEDLARS Analysts handling the literature of pharmacy, pharmacology and toxicology. They are presented in various arrangements.

Below is an alphabetical list of MEDLARS subheadings available for indexing and searching terms found in Category D - Chemicals and Drugs. For the definitions see either MEDICAL SUBJECTS HEADINGS, January 1969, pages VII-IX or the MEDLARS INDEXING MANUAL 1969, Sections 12.4.1 through 12.4.60. Applications of these subheadings will be found throughout the Indexing Manual.

- | | |
|---------------------------|------------------------|
| *administration & dosage | *metabolism |
| *adverse effects | *pharmacodynamics |
| *analysis | *physiology |
| *antagonists & inhibitors | *poisoning |
| *biosynthesis | *radiation effects |
| *blood | *secretion |
| *cerebrospinal fluid | *standards |
| *chem synthesis | *supply & distribution |
| *classification | *therapeutic use |
| *diagnostic use | *toxicity |
| *history | *urine |
| *isolation & purification | |

Next follows an arrangement showing the subheadings in various relationships in discrete areas. It is to be used in this way: if the MEDLARS Analyst is considering a given subheading in the field of pharmacy or pharmacology or toxicology, he can locate it below in relation to others which suggest possibly greater specificity. The official subheadings are preceded as usual by an asterisk (*); words in parentheses are typed to facilitate a grouping.

Category D Subheading Relationships

- *analysis
 - (in) *blood
 - (in) *cerebrospinal fluid
 - (in) *urine
- *isolation & purification
- *radiation effects
- *standards

- *pharmacodynamics
 - *administration & dosage
 - *antagonists & inhibitors
 - (injurious effects)
 - *adverse effects
 - *poisoning
 - *toxicity
- *physiology
 - *metabolism
 - *biosynthesis
 - (in) *blood
 - (in) *cerebrospinal fluid
 - (in) *urine
 - *secretion

- *therapeutic use
 - *administration & dosage
 - *standards

(other)

- *chem synthesis
- *classification
- *diagnostic use
- *history
- *supply & distribution

Instructions on the use of the various subheadings pertinent to pharmacy and pharmacology follow. As said above, the definitions are not given here since they appear in both MeSH and the Indexing Manual. Nor are all of them covered here since each is better discussed in the manual. You will find here no deviations from policy but only cautions and reminders on the usual use of the common ones.

*administration & dosage

Interpret this as "administration OR dosage." Use it in reference to the form of the dose and the amount of the medication as well as in reference to the route, the frequency or the duration of the administration.

When using this subheading, tend to make NIM the specific type of administration in the form of the many available MeSH dosage and administration headings.

Assume that all administration is ORAL (for there is no MeSH term to cover this) unless otherwise specified.

*analysis

This is for articles discussing the identification or quantitative determination of a substance.

If the author is discussing the qualitative or quantitative determination of a substance or its presence in the blood, urine or cerebrospinal fluid, index instead under each of these directly as *blood, *urine or *cerebrospinal fluid.

*analysis must refer to the determination of the drug or chemical in an organ or organism, or to its presence there. It does NOT mean the chemical structure of a drug, nor does it mean its chemistry. To index the chemistry of a drug, index under the name of the drug without a sub-heading (IM) and coordinate with CHEMISTRY (NIM).

*chem synthesis

Note that the subheading *chemical synthesis is modified in daily use to *chem synthesis. This is done to distinguish it from the subheading *chemically induced (used with names of diseases) internally within the computer which at present distinguishes among subheadings for purposes of alphabetization only within the first eight letters of any subheading.

1 2 3 4 5 6 7 8	
*c h e m i c a l l y	i n d u c e d
*c h e m i c a l	s y n t h e s i s

would be indistinguishable.

*chem synthesis may be used for articles on the chemical synthesis of drugs or chemicals on any level, i.e., the synthesis may take place in a test tube or on a large industrial scale.

Take care to distinguish *chem synthesis from *biosynthesis in that in using *biosynthesis, be certain that living (bio-) matter is involved. For example, the synthesis of penillin by Penicillium is indexed PENICILLIN *biosynthesis; the synthesis of penicillin in Italian factories is indexed PENICILLIN *chem synthesis.

*diagnostic use

This is a little-used subheading although the concept "diagnostic use" may refer to the use of the drug or chemical either in the diagnosis of a disease or in performing studies of clinical function of an organ or system.

An article on bromsulphalein in liver function tests is indexed under SULFOBROMOPHTHALEIN *diagnostic use (IM) and LIVER FUNCTION TESTS (IM).

When using radioisotopes as tracers in metabolic studies, do not use the subheading *diagnostic use with the name of the isotope: index without a subheading and do not coordinate with RADIOMETRY. See the Indexing Manual 18.23.3.1 and 18.23.4.

*isolation & purification

Interpret this as "isolation OR purification." It may apply to one substance being separated from another, usually *in vitro*, or for the preparation of purified constituents of a substance.

*metabolism

This is for articles on the absorption, distribution, biotransformation and excretion of drugs and chemicals.

If the article discusses the metabolism and ultimate appearance of the drug or its metabolites in the blood, urine or cerebrospinal fluid, index this with a specific subheading *blood, *urine or *cerebrospinal fluid, and not with *metabolism. *blood, *urine and *cerebrospinal fluid are to be used to cover the metabolic processes into the blood or the metabolic processes taking place in the blood and not exclusively to cover the mere presence of a substance in the blood.

*pharmacodynamics

Loosely speaking, this can be used practically any time an author speaks of the "effects" of a drug in or on a living organism. In MEDLARS at this time it is not restricted to the mechanism of action of a drug: it may apply to any effect of a drug on the structure, physiological process, metabolic process, etc., of an organ or organism. Naturally it will be used for articles on mechanism of action.

Do not index under *pharmacodynamics, however, the *in vitro* effect or reaction of one drug with another. This is indexed under the name of each drug (IM) and the coordinate CHEMISTRY (NIM).

*physiology

The emphasis of the MeSH definition of *physiology as used with Category D terms is on "biochemical substances ENDOGENOUSLY produced, for the physiologic role of the substance."

This means that an article on the effect of insulin injections must be viewed as INSULIN *pharmacodynamics since the insulin is being administered from the outside. On the other hand, an article on the effect or role of insulin in the control of blood sugar is viewed as INSULIN *physiology because - one will find upon reading the article - the insulin is being discussed as endogenous and as exerting a physiological role within the body.

An indexer can never use this subheading in reference to any substance not found naturally in the body (by that we mean in the sense that a hormone or enzyme or blood protein is found naturally in the body).

*radiation effects

Drugs are studied by subjecting them to various types of radiation to learn the effect of the irradiation on the chemistry or pharmacodynamics of a specific drug. This may be done *in vitro* or *in vivo*.

The effect of radiations on a drug or a chemical is indexed, generally, under the name of the drug with the subheading *radiation effects (IM), RADIATION EFFECTS (IM) and the specific type of radiation (IM). See the Indexing Manual 18.32, 18.32.1 and 18.32.2.

If the article is on the chemical effects of irradiating the drug or on the chemistry of the drug after irradiation, index under the name of the drug with the subheading *radiation effects (IM), RADIATION EFFECTS (IM), the specific type of radiation (IM) and RADIOCHEMISTRY (NIM).

*secretion

Use this for the act or mechanism of secretion of a substance by an organ or organism. Here the emphasis of the secretion is on an ENDOGENOUS substance being secreted: the discharge of a drug administered from outside the body and then secreted during the metabolic processes within the body is NOT to be handled by *secretion, for it was not endogenously produced. Here *metabolism is the correct. Compare this with the cautions regarding *physiology above.

This subheading as well as *physiology and *metabolism will be used more in indexing the literature of metabolic and endocrine diseases than in indexing pharmacy and pharmacology literature. The MEDLARS Analyst, however, should be acquainted or reminded here of the restrictions in all areas.

*therapeutic use

This may be used to cover the actual treatment of a disease or its prevention. The treatment or prevention of diseases in both humans and animals applies. Too it may be used for the treatment of diseases induced in experimental animals as well as for animal diseases occurring naturally.

If the emphasis of the therapeutic use is on the administration of the drug, bypass this sub-heading and use *administration & dosage instead.

If the article is on both the therapeutic use but also on the administration, index under both but make the point of the article IM.

*classification
*history
*standards
*supply & distribution
*utilization

These are all useful breakdowns of articles on drugs but are not required as frequently in indexing as the others above. They should be used freely as required.

Except for *classification, the remaining four should always be used in relation to a Geographic Heading, if possible and if applicable, for better retrieval.

*standards may refer to standards in identifying drugs, standards in their quality, standards in their potency and standards in their manufacturing.

Injurious Effects of Drugs and Chemicals

There are restrictions in the use of the three available subheadings for the injurious effects of drugs or chemicals built into the subheadings by the MeSH definitions. It is good to discuss them here from the standpoint of the cautionary instructions. The quotations are from the MeSH definitions.

*adverse effects

The restriction in regard to *adverse effects lies in the MeSH words "for unintended or undesirable reactions occurring at doses normally used..." This means that the article must be discussing the adverse effects of a drug or chemical given THERAPEUTICALLY at normal doses.

*poisoning

Here the author generally leaves no question of degree to the analyst: he generally used the word "poisoning" (in foreign literature, "intoxication") in discussing the injurious effects of the drug or chemical. MeSH gives latitude in applying the term "poisoning" as used by the author since it states that *poisoning may be used "for human or animal poisoning, acute or chronic, whether the poisoning is accidental, occupational, suicidal, homicidal, by self medication, by medication error, or by environmental exposure."

*toxicity

In this definition, an analyst will rely usually on the fact that most articles are on the experimental study of the toxic effects and that the emphasis of the study is usually on

"the margin of safety or the reactions accompanying administration at various dose levels."

When a drug or a chemical is administered deliberately to induce a disease state, index under the name of the drug or chemical WITHOUT a subheading (Indexing Manual 18.18 and 18.18.1).

This is indexed without a subheading since in such experiments the injurious effect of the given drug is usually known to the experimenter, and therefore this cannot fit properly into the MeSH definition of *toxicity where the study is on the not-as-yet-known toxic effects. Moreover, since the injurious effect of said drug was not the result of therapeutic use, it cannot meet the requirements of *adverse effects as defined.

The fact that a subheading is not used with the drug does not affect the use of *chemically induced with the name of the disease (Indexing Manual 16.32, 16.32.1 et passim).

ENVIRONMENTAL EXPOSURE (G3), a 1971 Provisional Heading, is available as an excellent coordinate with drug terms when an injurious effect is a result of environmental exposure to the substance. The surroundings need not be exclusively industrial. ENVIRONMENTAL EXPOSURE can cover the harmful effects which cannot correctly meet the MeSH definition of *adverse effects, *poisoning or *toxicity.

When *poisoning or *toxicity - by the MeSH definition - is used and when the injurious effect of the chemical is a result of environmental exposure, index under both the drug term with the proper injurious-effect subheading and coordinate for more specific delineation under ENVIRONMENTAL EXPOSURE (NIM).

REFERENCES AND TOOLS

As in all indexing, the best reference is the article itself and the word of the author. Obtain from the article the maximum amount of information to be described in terms of MEDICAL SUBJECT HEADINGS.

The following is a list of additional useful reference works for the indexing of pharmacy and pharmacology.

1. American Drug Index. Ed. by C.O. Wilson & T. E. Jones. Philadelphia, Lippincott
2. American Hospital Formulary Service. Washington, American Society of Hospital Pharmacists, 1959 (with supplements to date)
3. Condensed Chemical Dictionary. 7th ed. Ed. by A. & E. Rose. New York, Reinhold, 1966
4. Desktop Analysis Tool; a special compilation of information from the common data base. Publ. by Chemical Abstracts Service for the Food and Drug Administration, the National Library of Medicine and the National Science Foundation. 1967
5. Drill's Pharmacology in Medicine. 3d ed. Ed. by J. R. DiPalma. New York, Blakiston, 1965
6. Gehes Codex der pharmazeutischen Spezialpraparate. 9th ed. Stuttgart, Wissenschaftliche Verlagsgesellschaft, 1960 with supplement 1964
7. Goodman, L. S. & Gilman, A. The Pharmacological Basis of Therapeutics. 3d ed. New York, Macmillan, 1965

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acology. 2d ed. Ed. by A. Osol, R. Pratt &
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APPENDIX I

Subcategory B6 (Mosses, Ferns and Higher Plants)

Many of the terms in the B6 subcategory of MeSH are of interest to pharmacists and to those indexing pharmacy literature, although most of the headings are of historical character rather than of pressing immediacy.

The arrays below are useful in showing the MeSH coverage of many plants appearing in the literature devoted to pharmacognosy and especially in the literature of foreign countries leaning heavily on the use of medicinal plants in their therapeutic or pharmaceutical armamentarium.

A few botanical terms which are useful in indexing pharmacy are found in Category J (Technology, Commerce and Industry). They are included below with the B6 terms but are marked (J).

Several groupings are given below. An additional one is given in the 1969 MEDICAL SUBJECT HEADINGS: TREE STRUCTURES where the arrangement of the specifics in Subcategory B6 divides them into HERBS or TREES. This grouping is not reproduced here.

A potpourri of notes on specific terms follows at the end.

Arrangement by plant structure:

PLANTS
FRUIT (J)
NUTS (J)
POLLEN
SEEDS
WOOD (J)

Arrangement by plant taxonomy:

PLANTS
GRASSES
HERBS
TREES

Arrangement by use:

PLANTS
PLANTS, EDIBLE
CASSAVA
CEREALS (J)
CORN
GRAIN
MALT (J)
RICE
WHEAT
FRUIT (J)
CITRUS FRUITS (J)
GRAPES (J)
NUTS (J)
CACAO
COCONUT (J)
PEANUTS (J)
RHUBARB
VEGETABLES (J)
SOY BEANS (J)
PLANTS, MEDICINAL
HERBS
TREES

Plants of commercial importance:

ALFALFA	COFFEE
ARECA	COTTON
CACAO	PAPAVER
CANNABIS	RUBBER (J)
CASSAVA	TEA
CINCHONA	TOBACCO
COCA	

CONDIMENTS (J) or spices:

CLOVE
GARLIC
MUSTARD
THYME

PLANTS, MEDICINAL

ACACIA	EUPATORIUM	PSYLLIUM
ADONIS	EUPHRASIA	PYRETHRUM
AESCULUS	FERULA	RAUWOLFIA
ALOE	FRANGULA	RHUBARB
ASPIDIUM	GELSEMIUM	RHUS
BELLADONNA	GENTIAN	RICINUS
CAJEPUT	GERANIUM	ROSA
CAPSICUM	GINSENG	SALIX
CASTANEA	GLYCYRRHIZA	SARSAPARILLA
CHELIDONIUM	HELIANTHUS	SEDUM
CHENOPODIUM	HYDRASTIS	SENECIO
COLCHICUM	IPECAC	SENNA
COLOCYNTH	JUNIPER	SPHAGNUM
CONVALLARIA	LITHOSPERMUM	SQUILL
CRATAEGUS	LOBELIA	STRAMONIUM
CUBEB	MANDRAGORA	TAMARIND
DIGITALIS	MARRUBIUM	UVA URSI
ECHINACEA	MYRICA	VALERIAN
ERYTHRINA	NUX VOMICA (D2)	VERATRUM
EUCALYPTUS	OLEANDER	VISCUM
	PODOPHYLLUM	
	POLYGONUM	

NOTES

AESCULUS	This is the horse chestnut.
ARECA	This is betel nut.
ASPIDIUM	This is the plant called male fern.
CACAO	Index chocolate here. CACAO will be used for the cacao plant or products from it, such as cocoa and chocolate. If chocolate candy, index under both CACAO and CANDY.
CANNABIS	This is hemp. Index under CANNABIS for both the plant and the hashish from it.
CAPSICUM	This is pepper.
CASTANEA	This is chestnut.
CEREALS	Index under CEREALS the plant itself or the seeds of the plant used as food, whether in the natural state or commercially processed. MeSH, however, gives several specific cereal terms.
CINCHONA	This is the source of quinine.
COFFEE	Index both the beverage and the coffee plant here.
CONVALLARIA	This is the lily-of-the-valley.
CORN	Index both the plant and the food here.
COTTON	Index both the plant and the textile here.
CRATAEGUS	This is the hawthorn.

DIGITALIS	Index only the plant here: the alkaloids from the plant are indexed under DIGITALIS GLYCOSIDES.
FERULA	This is asafetida ("fetid gum").
FRUIT	Botanically the fruit of a plant is a matured ovary while the seed is a matured ovule.
GARLIC	Index both the plant and the condiment here.
GELSEMIUM	This is jasmine.
GLYCYRRHIZA	Index both the plant and licorice as candy, flavoring or medicament here.
GRAIN	This is defined by Webster as "the seed or fruit resembling seed of any cereal grass (as wheat, oats, rice, millet)."
HELIANTHUS	This is the sunflower.
HERBS	This is defined by Webster as "a seed-producing plant that does not develop persistent woody tissue but dies down at the end of a growing season."
IPECAC	Index both the plant and the drug here.
MARRUBIUM	This is horehound.
MUSTARD	Index both the plant and the condiment here.
MYRICA	This is bayberry. Do not confuse with Myristica which gives us nutmeg and mace.
PAPAVER	Index only the plant here; index opium under OPIUM.

PODOPHYLLUM	This is mandrake.
RAUWOLFIA	Index both the plant and its alkaloids here but see MeSH for headings for specific alkaloids.
RHUBARB	Index both the plant and the prepared dish here.
RHUS	This is for various species of both ivy and sumac.
RICE	Index both the plant and rice as food here.
RICINUS	Index only the castor plant here. Castor oil is indexed as CASTOR OIL.
RUBBER	Index both the plant and the elastic substances here.
SALIX	This is the willow.
TEA	Index both the plant and the beverage here.
VERATRUM	This is hellebore.
VISCUM	This is mistletoe.

APPENDIX II

MEDICAL SUBJECT HEADINGS

1971

The pages that follow give the 1971 MeSH coverage in the fields of pharmacy, pharmacology and toxicology. The headings are grouped into more or less natural subject blocks under these rubrics:

1. Pharmaceutical Sciences
2. Pharmacy Education
3. Pharmacy Practice
4. Pharmaceutical Services
5. Drug Information Sources
6. Pharmaceutical Technology
7. Analytical Chemistry
8. Physical Chemistry
9. Chemistry and Chemical Reactions
10. Miscellaneous Substances of Interest to Pharmacy
11. Pharmacology and Pharmacodynamics
12. Drug Interactions
13. Drug Therapy
14. Toxicology

1. Pharmaceutical Sciences

PHARMACOLOGY
DRUG THERAPY
HERBALISM
HOMEOPATHY
PHARMACOGNOSY
HERBALISM
PHARMACY
CHEMISTRY, PHARMACEUTICAL
TECHNOLOGY, PHARMACEUTICAL
TOXICOLOGY

2. Pharmacy Education

All terms below are found in Category I.

EDUCATION, PHARMACY
EDUCATION, PHARMACY, CONTINUING
EDUCATION, PHARMACY, GRADUATE

SCHOOLS, PHARMACY (I, N2)
FACULTY, PHARMACY (I, M, N2)
STUDENTS, PHARMACY (I, M, N2)

3. Pharmacy Practice

Except for PHARMACY (E5,G2), all terms below are found in Category N.

PHARMACY
PHARMACISTS
PHARMACIES

DRUG UTILIZATION (Prov)
ETHICS, PHARMACY
FEES, PHARMACEUTICAL
INSURANCE, PHARMACEUTICAL SERVICES
LEGISLATION, DRUG
LEGISLATION, PHARMACY
DRUG AND NARCOTIC CONTROL
LICENSURE, PHARMACY
PHARMACY ADMINISTRATION
PHARMACY AND THERAPEUTICS COMMITTEE
SOCIETIES, PHARMACEUTICAL
UNITED STATES FOOD AND DRUG ADMINISTRATION

4. Pharmaceutical Services

All terms below are in Category N.

PHARMACEUTICAL SERVICES
COMMUNITY PHARMACY SERVICE
HOSPITAL PHARMACY SERVICE
INSURANCE, PHARMACEUTICAL SERVICES

5. Drug Information Sources

All terms below are in Category L.

CATALOGS, DRUG
DICTIONARIES, CHEMICAL
DICTIONARIES, PHARMACEUTIC
DIRECTORIES
DISPENSATORIES
FORMULARIES
 FORMULARIES, DENTAL
 FORMULARIES, HOMEOPATHIC
 FORMULARIES, HOSPITAL
PHARMACOPOEIAS
 PHARMACOPOEIAS, HOMEOPATHIC

6. Pharmaceutical Technology

The terms below come from Categories D, E and J, with the exception of DRUG ADULTERATION (G3). To improve legibility, the category numbers are not given with this large grouping. Use the alphabetical MeSH to obtain the category number for coordination with correct subheadings.

CHEMICAL INDUSTRY

DRUG INDUSTRY

TECHNOLOGY, PHARMACEUTICAL

DOSAGE FORMS (and types of administration)

AEROSOLS

CAPSULES

DELAYED-ACTION PREPARATIONS

TABLETS, ENTERIC-COATED

EMULSIONS

ENEMA

GELS

INFUSIONS, PARENTERAL

INHALATION THERAPY

INJECTIONS

INJECTIONS, INTRA-ARTERIAL

INJECTIONS, INTRA-ARTICULAR

INJECTIONS, INTRADERMAL

INJECTIONS, INTRALYMPHATIC (Prov)

INJECTIONS, INTRAMUSCULAR

INJECTIONS, INTRAPERITONEAL

INJECTIONS, INTRATHECAL

INJECTIONS, INTRAVENOUS

INJECTIONS, SUBCUTANEOUS

IONTOPHORESIS

LINIMENTS

OINTMENTS

PERFUSION

ISOLATION PERFUSION

POWDERS

SOLUTIONS

HYPERTONIC SOLUTIONS

HYPOTONIC SOLUTIONS

ISOTONIC SOLUTIONS

OPHTHALMIC SOLUTIONS

SUPPOSITORIES
SUSPENSIONS
TABLETS
 TABLETS, ENTERIC-COATED
DRUG ADULTERATION
DRUG COMPOUNDING
 PHARMACEUTIC AIDS
 FLAVORING AGENTS
 SWEETENING AGENTS
 VANILLIN
 POWDERS
 KAOLIN
 STARCH
 TALC
 VEHICLES
 COLLODION
 LANOLIN
 MINERAL OIL
DRUG LABELING
DRUG STABILITY
DRUG STORAGE
EQUIPMENT AND SUPPLIES
 DISPOSABLE EQUIPMENT
 DRUG CONTAINERS AND CLOSURES
 FILTERS
 (Materials)
 CELLOPHANE
 CERAMICS (Prov)
 GLASS
 PAPER
 RUBBER
 SYRINGES
 THERMOMETERS
WEIGHTS AND MEASURES

7. Analytical Chemistry

The terms below come predominantly from Category H (Physical Sciences). Those coming from Category E (E5) are so marked and one, INDICATORS AND REAGENTS, comes from Subcategory D13.

CHEMISTRY, ANALYTICAL
ACTIVATION ANALYSIS
AUTOANALYSIS (E)
BIOLOGICAL ASSAY (E)
CALORIMETRY
CENTRIFUGATION (E)
ULTRACENTRIFUGATION
CENTRIFUGATION, DENSITY GRADIENT
CENTRIFUGATION, ZONAL
CHROMATOGRAPHY
CHROMATOGRAPHY, GAS
CHROMATOGRAPHY, ION EXCHANGE
CHROMATOGRAPHY, DEAE-CELLULOSE
CHROMATOGRAPHY, PAPER
CHROMATOGRAPHY, THIN LAYER
COLORIMETRY
CONDUCTOMETRY
COUNTERCURRENT DISTRIBUTION
CRYSTALLOGRAPHY
X-RAY DIFFRACTION
DIALYSIS
ELECTROPHORESIS
ELECTROPHORESIS, DISK
FILTRATION
GEL FILTRATION
INDICATORS AND REAGENTS (D)
DYES
ACRIDINES
AZO COMPOUNDS
CONGO RED
DIMETHYLAMINOAZOBENZENE
TRYPAN BLUE
FLUORESCENT DYES
FLUORESCINS
INDOCYANINE GREEN
PHENOLPHTHALEINS
SULFOBROMOPHTHALEIN

ROSANILINE DYES
GENTIAN VIOLET
METHYLENE BLUE
ROSE BENGAL
TETRAZOLIUM SALTS
GUAIAC
PHLOROGLYCINOL
MANOMETRY (E)
MICROCHEMISTRY
MICROSCOPY (E)
MICROSCOPY, ELECTRON
MICROSCOPY, ELECTRON, SCANNING (Prov)
MICROSCOPY, FLUORESCENCE
MICROSCOPY, INTERFERENCE
MICROSCOPY, PHASE CONTRAST
PHOTOMICROGRAPHY
MICROSCOPY, POLARIZATION
MICROSCOPY, X-RAY (Prov)

MICROMANIPULATION (Prov)
MICRORADIOGRAPHY (E)
PHOTOMICROGRAPHY
OSCILLOMETRY (E)
PHOTOMETRY (E)
DENSITOMETRY (E)
DENSITOMETRY, X-RAY (E)
FLUOROMETRY (E)
POLAROGRAPHY
POTENTIOMETRY
RADIOMETRY
+ SPECTRUM ANALYSIS
ELECTRON PROBE MICROANALYSIS
ELECTRON SPIN RESONANCE
GAMMA SPECTROMETRY (E) (Prov)
NUCLEAR MAGNETIC RESONANCE
OPTICAL ROTATORY DISPERSION
SPECTROPHOTOMETRY
GAMMA SPECTROMETRY (E) (Prov)

- + When indexing, specify INFRARED RAYS or ULTRAVIOLET RAYS as the NIM coordinate if stated by the author.

8. Physical Chemistry

All the terms below are from Category H unless otherwise specified. The 1971 MeSH gives METHODS and TIME FACTORS as Provisional Headings which are useful as parameters with many of the items below when pertinent.

CHEMISTRY, PHYSICAL
ABSORPTION
ADSORPTION
CALORIMETRY
CATALYSIS
COLLOIDS
CRYSTALLIZATION
DIALYSIS
DIFFUSION (G1, H)
ELECTROCHEMISTRY
CONDUCTOMETRY
ELECTRIC CONDUCTIVITY (G1, H)
ELECTROGALVANISM (E6, H)
ELECTROLYSIS
ELECTROPHORESIS
ELECTROPHORESIS, DISK
POLAROGRAPHY
POTENTIOMETRY (E5)
ENERGY TRANSFER (G1, H)
FILTRATION
HARDNESS
HARDNESS TESTS (E5) (Prov)
HYDROGEN-ION CONCENTRATION
ACID-BASE EQUILIBRIUM (G1, H)
BUFFERS (G1, H)
ION EXCHANGE
KINETICS
LIGHT
LASERS
LUMINESCENCE
FLUORESCENCE
PHOTOCHEMISTRY
PHOTOSYNTHESIS
MEMBRANES, ARTIFICIAL
MOLECULAR WEIGHT
OXIDATION-REDUCTION

PERMEABILITY
OSMOSIS
 OSMOLAR CONCENTRATION
 OSMOTIC PRESSURE (Prov)
PRECIPITATION
PRESSURE
 PARTIAL PRESSURE
RADIOCHEMISTRY
RHEOLOGY
SOLUBILITY
SPECIFIC GRAVITY
SURFACE PROPERTIES
 SURFACE TENSION
 CAPILLARITY
TEMPERATURE (G3, H)
 COLD
 FREEZING
 FREEZE DRYING
 FREEZE ETCHING (E5) (Prov)
 REFRIGERATION (E5, J)
 HEAT
 THERMODYNAMICS
VISCOSEITY
X-RAY DIFFRACTION

.9. Chemistry and Chemical Reactions

ALKYLATION (H)
 METHYLATION (H)
BIODEGRADATION (G1, H) (Prov)
BIOTRANSFORMATION (G1)
ESTERS (D2)
FERMENTATION (G1)
FREE RADICALS (D1, D2) (Prov)
HYDROGEN-ION CONCENTRATION (H)
 ACID-BASE EQUILIBRIUM (G1, H)
 BUFFERS (G1, H)
MACROMOLECULAR SYSTEMS (D10, D11)
MODELS, CHEMICAL (H)
MOLECULAR WEIGHT (H)
STEREOISOMERS (H) (Prov)

10. Miscellaneous Substances of Interest to Pharmacy

Although most of the substances below appear in Sub-category D13, several appear in other places as well within Category D. If the substance is in Category D, no specific location has been given since the categorization does not affect the available subheading. Since Category D and Category J differ in the sub-headings available, those substances taken from Category J are indicated (J).

APHRODISIACS
CAUSTICS
CHARCOAL
DERMATOLOGIC AGENTS
 ANTI-INFLAMMATORY AGENTS, TOPICAL
 ASTRINGENTS
 COAL TAR
 ICHTHAMMOL
 LANOLIN
 METHOXSALEN
 PETROLATUM
 PODOPHYLLUM
 SUNSCREENING AGENTS (Prov)
EXPECTORANTS
 ACETYL CYSTEINE
 GUAIACOL GLYCERYL ETHER
 IPECAC
IRRITANTS
 CANTHARIDES
 LINIMENTS
 SCLEROSING SOLUTIONS
OILS
 CASTOR OIL
 CHAULMOOGRA OIL
 COTTONSEED
 CROTON OIL
 FISH LIVER OILS
 GOSSYPOL
 LINSEED
 MINERAL OIL
 OILS, VOLATILE
 SESAME OIL

PETROLEUM
KEROSENE (Prov)
MINERAL OIL
PARAFFIN
PETROLATUM
POLYMERS
FLUOROCARBON POLYMERS
LATEX PARTICLES
PLASTICS
NYLON (J)
POLYETHYLENES
POLYSTYRENES
POLYURETHANES
POLYVINYLS
RESINS
ACRYLIC RESINS
BALSAMS
BENZOIN
EPOXY RESINS
ION EXCHANGE RESINS
CHOLESTYRAMINE
SILICONES
SOLVENTS
(Sundries)
COSMETICS (D13, J)
DENTIFRICES (D13)
DEODORANTS
MOUTHWASHES
PERFUME
SOAPS
SUNSCREENING AGENTS (Prov)
SURFACE-ACTIVE AGENTS
DETERGENTS
SOAPS
TARS
COAL TAR
ICHTHAMMOL
VEHICLES
COLLODION
JANOLIN
MINERAL OIL
WATER
ICE (G3)
STEAM (G3)
WAXES
PARAFFIN

11. Pharmacology and Pharmacodynamics

All of the terms in this group
are in Subcategory G1.

PHARMACOLOGY

BIODEGRADATION (Prov)
BIOTRANSFORMATION
DEPRESSION, CHEMICAL
DRUG TOLERANCE
INSULIN RESISTANCE
TACHYPHYLAXIS
PSYCHOPHARMACOLOGY
RECEPTORS, DRUG
STIMULATION, CHEMICAL
TOXICOLOGY

12. Drug Interaction

DRUG ANTAGONISM
DRUG INCOMPATIBILITY (Prov)
DRUG SYNERGISM

13. Drug Therapy

DRUG THERAPY
MEDICATION ERRORS
NOSTRUMS
PLACEBOS
PRESCRIPTIONS
SELF MEDICATION

14. Toxicology

The National Library of Medicine publishes a quarterly entitled the TOXICITY BIBLIOGRAPHY. It covers the "adverse and toxic effects of drugs and chemicals reported in approximately 2,300 biomedical journals..." The references are "selected from the monthly issues of INDEX MEDICUS for the corresponding period." (TOXICITY BIBLIOGRAPHY, Volume 3, January-March 1970, page vii)

Section I of the TOXICITY BIBLIOGRAPHY contains references under "any subject heading for a chemical, drug or similar substance to which one of the following three subheadings has been applied": *adverse effects, *poisoning and *toxicity. For this reason, these three subheadings have been discussed separately in this brochure, pages 21-22.

Section I contains also entries under MeSH terms implying both toxicity and agent, such as ARGYRIA, LEAD POISONING, POISONS.

Section II contains citations on diseases indexed with the subheading *chemically induced and disease concepts inherently "chemically induced", such as ALCOHOLIC INTOXICATION, HEPATITIS, TOXIC, MORPHINE ADDICTION.

The headings arrayed below are MeSH terms useful for MEDLARS analysts working in the area of toxicology.

TOXICOLOGY (G1)
POISONS (D13)
CHEMICAL WARFARE AGENTS (D13)
PESTICIDES (D3,D13)
HERBICIDES (D3)
INSECT REPELLENTS (D3)
INSECTICIDES (D3)

INSECTICIDES (D3)
BENZENE HEXACHLORIDE (D3)
CHLORDAN (D3)
DDT (D3)
DIELDRIN (D3)
PARATHION (D3)
PYRETHRUM (D3)
ROtenone (D3)
MOLLUSCACIDES (D3)
RODENTICIDES (D3)

(Diseases)

ABNORMALITIES, DRUG-INDUCED (C14)
ALCOHOLIC INTOXICATION (C14)
DERMATITIS MEDICAMENTOSA (C14)
DRUG ABUSE (F1,F2,I)
DRUG ADDICTION (F2)
DRUG WITHDRAWAL SYMPTOMS (F2)
GLUE SNIFFING (F1,F2,I)
MORPHINE ADDICTION (F2)
DRUG HYPERSENSITIVITY (C14)
ENVIRONMENTAL EXPOSURE (G3) (Prov)
HEPATITIS, TOXIC
INERT GAS NARCOSIS (C10,C14)
PHOTOSENSITIZATION
POISONING (C14)
CARBON TETRACHLORIDE POISONING (C14)
FLUORIDE POISONING (C14)
GAS POISONING (C14)
CARBON MONOXIDE POISONING (C14)
(Metals)
ARGYRIA (C14)
LEAD POISONING (C14)
MERCURY POISONING (C14)
PLANT POISONING (C14)
ERGOTISM (C14)
LATHYRISM (C14)

(Therapy)

ANTIDOTES (D13)
EMETICS (D6)
CHELATING AGENTS (D13)
DEFEROXAMINE (D13)
DIMERCAPROL (D13)
DTPA (D13)
EDTA (D13)
PENICILLAMINE (D10,D13)

APPENDIX III

Category D - Chemicals and Drugs

The fields of pharmacy and pharmacology are represented in MEDICAL SUBJECT HEADINGS to some degree in every category from B through N. Only Category A (living organisms) yields no direct headings for pharmacy. And yet any MEDLARS Analyst knows that, certainly, the fields of pharmacology and, even more, pharmacodynamics are seldom indexed or searched without recourse to an organ or organism in the light of its response to various drugs and chemicals.

Of all the categories in which the Analyst will find headings of pharmaceutical or pharmacological interest, Category D yields the greatest bounty: it contains over 2600 terms out of the approximately 7400 terms in the whole of MeSH. Obviously this appendix cannot supplant or reproduce Category D in MeSH, nor should it. Both the categorizations and the alphabetical listing are indispensable to the MEDLARS Analyst and must be used constantly.

The following page gives a list of the titles or coverage of the 13 subcategories into which Category D is divided. It is supplied here in this brochure for ready reference and for a concise overall view of the MeSH coverage of large chemical and drug groups.

Category D

- D1 Inorganic chemicals: elements, simple compounds and related terms
- D2 Organic chemicals and structural groups
- D3 Anti-infective agents and pesticides
- D4 Antineoplastic agents and immunosuppressive agents
- D5 Autonomic drugs, cardiovascular agents and muscle relaxants
- D6 Central nervous system drugs, antiemetics, antihistaminics and antitussive agents
- D7 Hematologic agents, gastrointestinal agents and agents for fluid therapy
- D8 Hormones, precursors, metabolites, substitutes and antagonists
- D9 Enzymes, coenzymes, enzyme inhibitors and precursors
- D10 Amino acids, peptides, proteins and nucleic acids
- D11 Carbohydrates, lipids, vitamins and related compounds
- D12 Immunologic factors, biological factors and substances
- D13 Miscellaneous chemicals and drugs

APPENDIX IV

NIM Headings

In indexing under MEDLARS, the indexer evaluates the MeSH headings assigned to an article as to whether the heading is to be printed in INDEX MEDICUS or is to be stored in the computer for possible retrieval by a searcher to meet a specific research need.

Those terms destined for publication in INDEX MEDICUS are termed IM or INDEX MEDICUS terms and those to be stored in the computer are called NIM or non-INDEX MEDICUS terms. In general, those appearing in INDEX MEDICUS (IM) represent the salient points of an article indexed and those stored in the computer (NIM) are valuable data but not necessarily the basic point of the articles.

This policy is referred to many times throughout this brochure and is repeated endlessly in the MEDLARS Indexing Manual. The basic philosophy of IM versus NIM appears in the manual in sections 4.1 through 4.2.2.7 and again with more specific examples in 13.11 through 13.11.5.

Here is a pertinent illustration in pharmacy. An article on the value of chemistry to a pharmacist is indexed as CHEMISTRY (IM) since here chemistry is a scientific discipline. But in an article on the chemistry of penicillin, we say that basically the subject is penicillin - but discussed from the chemical aspect. This is indexed now as CHEMISTRY (NIM) with the PENICILLIN as IM.

Below we list a set of main headings which may be indexed as IM if the articles discuss them as specialties or disciplines or fields of study. But if the articles discuss them as qualifiers of specific drugs or chemicals, they should be indexed as NIM.

The sections in the Indexing Manual where these headings are discussed are given in parentheses after the term.

BIOCHEMISTRY (14.15)
CHEMISTRY (14.15, 18.12, 18.12.1, 18.17,
 18.31.1, 25.2, 25.2.1, 25.2.2, 25.3)
CHEMISTRY, AGRICULTURAL (25.2)
CHEMISTRY, ANALYTICAL (18.12, 25.2, 25.3)
CHEMISTRY, CLINICAL
CHEMISTRY, ORGANIC (25.2, 25.2.1, 25.2.2,
 25.3)
CHEMISTRY, PHARMACEUTICAL (25.2, 25.2.1,
 25.2.2)
CHEMISTRY, PHYSICAL (25.2, 25.2.1, 25.2.2)
ELECTROCHEMISTRY (and all indentions on
 page 39)
MICROCHEMISTRY
PHOTOCHEMISTRY
RADIOCHEMISTRY (18.32.3)

Pages 35-40 of this brochure list over a hundred MeSH terms which the indexers encounter constantly in the literature of pharmacy and pharmacology. They are predominantly chemical reactions and analytical and physicochemical technics.

In accordance with both indexing policy in general and notations on page 5 here, all of these technics are important for search retrieval for scientists using MEDLARS. They should be indexed routinely. However, in accordance with the IM/NIM policy, they should also routinely (in general) be indexed as NIM. The exception is given in item 9 on page 5.

APPENDIX V

Indexing Instructions for Miscellaneous Terms in Pharmacy and Pharmacology

The MEDICAL SUBJECT HEADINGS (MeSH) terms in the fields of pharmacy, pharmacology and toxicology will be found in Appendix II, arranged in natural groups for easy memorizing or easy reference.

In this appendix are terms encountered in indexing the literature of these fields for which there are no main headings in MeSH. In many instances many concepts are candidates as future MeSH headings, but in other cases, many need not be so considered and, instead, require only a little direction in the form of indexing instruction.

Indexing instructions are given for all of these terms in the usual form of Integrated Authority File (IAF) entries. Each of the entries in this appendix will find its way also into the official IAF.

This appendix contains instructions for two types of terms: for terms met in the literature and for terms appearing in the 1971 MeSH as see or see under cross-references.

The printed MeSH cross-references are indicated in the following pages by a + in front of the entry.

- absorption
 - + Index with proper sub-heading (IM)
 - ABSORPTION (NIM)
- + addiction
 - Index DRUG ADDICTION
- + adhesive plaster
 - Index BANDAGES
- alkalinity
 - Index HYDROGEN-ION CONCENTRATION
- + allergy
 - Index HYPERSENSITIVITY or specific induction
- + amino acid analyzer
 - Index AUTOANALYSIS
- ampules
 - Index DRUG CONTAINERS AND CLOSURES
- + anion exchange resins
 - Index ION EXCHANGE RESINS
- + antipruritics
 - Index DERMATOLOGIC AGENTS (IM)
 - PRURITUS *drug therapy (IM)
- + apparatus and instruments
 - Index EQUIPMENT AND SUPPLIES
- + arbutin
 - Index UVA URSI
- + barley
 - Index GRAIN
- + belladonna alkaloids
 - Index BELLADONNA
- + betel
 - Index ARECA
- bioassay
 - Index BIOLOGICAL ASSAY
- + biopolymers
 - Index MACROMOLECULAR SYSTEMS
- blood levels
 - Index with *blood
- boiling point
 - Index CHEMISTRY, PHYSICAL (NIM)
 - HEAT (NIM)
- + botany, medical
 - Index PLANTS, MEDICINAL or
 - BOTANY if applicable
- brand names
 - Index DRUGS or specific drug (IM)
 - NOMENCLATURE (IM)
- + butter yellow
 - Index DIMETHYLAZINOAZOBENZENE
- carminatives
 - Index GASTROINTESTINAL AGENTS
- + cation exchange resins
 - Index ION EXCHANGE RESINS
- + centrifugation, isopycnic
 - Index CENTRIFUGATION, DENSITY GRADIENT

- chemical depression
 - + counterirritants
 - Index IRRITANTS
- chemical stimulation
 - Index STIMULATION, CHEMICAL (NIM)
- chemical structure
 - Index CHEMISTRY (NIM)
- + chocolate
 - Index CACAO
- coatings
 - Index TABLETS or specific indentation
- + cocoa
 - Index CACAO
- + cod liver oil
 - Index FISH LIVER OILS
- coloring agents
 - Index PHARMACEUTIC AIDS (IM)
 - COLOR (NIM)
- column chromatography
 - Index CHROMATOGRAPHY
- + community pharmacies
 - Index PHARMACIES
- + complexons
 - Index CHELATING AGENTS
- concentration
 - Index with *administration & dosage or *analysis or *blood, etc.
- cough remedies
 - Index ANTITUSSIVE AGENTS
 - or EXPECTORANTS if applicable
- + creams
 - Index OINTMENTS
- cryptenamine
 - Index VERATRUM
- + crystal violet
 - Index GENTIAN VIOLET
- + DAB
 - Index DIMETHYLAMINOAZOBENZENE
- + dacron
 - Index POLYMERS
- + Datura
 - Index STRAMONIUM
- decoctions
 - Index CHEMISTRY, PHARMACEUTICAL
- decomposition
 - Index with *metabolism or CHEMISTRY (NIM)
- + defoliants, chemical
 - Index HERBICIDES
- depot preparations
 - Index DELAYED-ACTION PREPARATIONS
 - or TABLETS, ENTERIC-COATED
- + desferrioxamine
 - Index DEFEROXAMINE
- desiccation
 - Index CHEMISTRY, PHARMACEUTICAL

- determination
 Index *analysis
- distillation
 Index CHEMISTRY, PHARMACEUTICAL
- distribution
 Index *metabolism
- + dithizone
 Index INDICATORS AND REAGENTS
- dosage (in English)
 Index *administration * dosage
- dosage (in foreign languages)
 Index *analysis
- dose
 Index *administration & dosage (IM)
 specific dosage form
 or type of administration (NIM)
- dose/effect relationship
 Index *administration & dosage
- double-blind
 Index with Check tag
 CLINICAL RESEARCH
- + dressings
 Index BANDAGES
- + drug benefit plans
 Index INSURANCE, PHARMACEUTICAL SERVICES
- + drug catalogs
 Index CATALOGS, DRUG
- + drug committee
 Index PHARMACY AND THERAPEUTICS COMMITTEE
- + drug degradation
 Index DRUG STABILITY
- + drug dependence
 Index DRUG ADDICTION
- + drug distribution systems, hospital
 Index HOSPITAL MEDICATION SYSTEMS
- + drug insurance
 Index INSURANCE, PHARMACEUTICAL SERVICES
- drug interaction
 Index CHEMISTRY (NIM)
 or DRUG SYNERGISM
 or DRUG ANTAGONISM
- + drug packaging
 Index DRUG CONTAINERS AND CLOSURES
- + drug potentiation
 Index DRUG SYNERGISM
- + electron microscopy
 Index MICROSCOPY, ELECTRON
- elimination
 Index *urine usually
 or other route
 of elimination
- elixirs
 Index CHEMISTRY, PHARMACEUTICAL or SOLUTIONS or ALCOHOL, ETHYL if applicable

- + emollients
Index DERMATOLOGIC AGENTS
- essential oils
Index OILS, VOLATILE
- evaporation
Index CHEMISTRY or CHEMISTRY, PHARMACEUTICAL
- + excipients
Index PHARMACEUTIC AIDS
- excretion
Index *urine usually or other route of excretion
- extracts
Index specific drug (IM) CHEMISTRY, PHARMACEUTICAL (NIM) or PLANT EXTRACTS (Prov) if applicable
- + eyedrops
Index OPHTHALMIC SOLUTIONS
- fate of drugs
Index *metabolism
- + FEP
Index FLUOROCARBON POLYMERS
- + filters
Index FILTRATION
- flavors
Index FLAVORING AGENTS
- fluid extracts
Index DOSAGE FORMS
- + fluon
Index FLUOROCARBON POLYMERS
- + fluorescence microscopy
Index MICROSCOPY, FLUORESCENCE
- + Food and Drug Administration
Index UNITED STATES FOOD AND DRUG ADMINISTRATION (type FDA)
- + food and drug laws
Index LEGISLATION, DRUG
- + Food, Drug and Cosmetic Act
Index LEGISLATION, DRUG
- + food plants
Index PLANTS, EDIBLE or specific plant
- + Formulary Committee
Index PHARMACY AND THERAPEUTICS COMMITTEE
- + fractional crystallization
Index CRYSTALLIZATION
- + fractional precipitation
Index PRECIPITATION
- + fractionation
Index CHEMISTRY, ANALYTICAL
- + fuel oils
Index PETROLEUM
- + fungal toxins
Index MYCOTOXINS
- galenicals
Index DRUGS

- + gasoline
Index PETROLEUM
- generic names
Index DRUGS or specific drug (IM)
NOMENCLATURE
- + gum-resins
Index RESINS
- gums
Index RESINS
- + hashish
Index CANNABIS
- + heavy metal detoxicants
Index CHELATING AGENTS
- + horehound
Index MARRUBIUM
- + hyoscyamine
Index BELLADONNA
- hypodermic administration
Index INJECTIONS, SUBCUTANEOUS
- + ichthyol
Index ICHTHAMMOL
- idiosyncrasy
Index DRUG HYPERSENSITIVITY
- infusions (as administration)
Index *administration & dosage and specific technic
- infusions (as extractions)
Index CHEMISTRY, PHARMACEUTICAL
- + injections, sclerosing
Index SCLEROSING SOLUTIONS
- intracutaneous injections
Index INJECTIONS, INTRADERMAL
- intradermal injections
Index INJECTIONS, INTRADERMAL
- intraspinal injections
Index INJECTIONS, INTRATHECAL
- ionization
Index CHEMISTRY, PHYSICAL
- isopycnic centrifugation
Index CENTRIFUGATION, DENSITY GRADIENT
- keratolytic agents
Index DERMATOLOGIC AGENTS
- + lacquer
Index PAINT
- + latex microspheres
Index LATEX PARTICLES
- + latex rubber
Index RUBBER
- laxatives
Index CATHARTICS
- LD
Index *toxicity

- liquid petrolatum
 Index MINERAL OIL
- + lithium aluminum hydride
 Index INDICATORS AND REAGENTS
- local administration
 Index *administration & dosage
- lotion
 Index SOLUTIONS or DERMATOLOGIC AGENTS if applicable
- + lucerne
 Index ALFALFA
- + lye
 Index CAUSTICS
- + lyophilization
 Index FREEZE DRYING
- + magnetic resonance
 Index ELECTRON SPIN RESONANCE or NUCLEAR MAGNETIC RESONANCE
- + male fern
 Index ASPIDIUM
- + manioc
 Index CASSAVA
- + marihuana
 Index CANNABIS
- mass spectrometry
 Index SPECTRUM ANALYSIS
- measures
 Index WEIGHTS AND MEASURES
- mechanism of action
 Index *pharmacodynamics
- medical botany
 Index PLANTS, MEDICINAL or BOTANY if applicable
- + metamucil
 Index PSYLLIUM
- + methyl violet
 Index GENTIAN VIOLET
- + methylrosaniline chloride
 Index GENTIAN VIOLET
- metric system
 Index WEIGHTS AND MEASURES
- + microphotography
 Index MICROFILMING or PHOTOMICROGRAPHY
- milks (as milk of magnesia)
 Index CHEMISTRY, PHARMACEUTICAL
- + millet
 Index GRAIN
- + mistletoe
 Index VISCUM
- mixtures
 Index CHEMISTRY, PHARMACEUTICAL
- + morphine derivatives
 Index MORPHINANS
- mucilages
 Index PHARMACEUTIC AIDS

- + mycotoxicoses
Index MYCOTOXINS
*poisoning
- + narcotic control
Index DRUG AND NARCOTIC CONTROL
- + narcotic laws
Index LEGISLATION, DRUG
- needles
Index SYRINGES or SURGICAL EQUIPMENT if applicable
- + neuropharmacology
Index AUTONOMIC DRUGS or PSYCHOPHARMACOLOGY
- neutron activation analysis
Index ACTIVATION ANALYSIS
- + ninhydrin
Index INDICATORS AND REAGENTS
- + oats
Index GRAIN
- + oils, essential
Index OILS, VOLATILE
- + ointment bases
Index PHARMACEUTIC AIDS and OINTMENTS
- oral administration
Index *administration & dosage
- + packaging, drug
Index DRUG CONTAINERS AND CLOSURES
- + paramagnetic resonance
Index ELECTRON SPIN RESONANCE
- particle size
Index POWDERS if applicable or CHEMISTRY, PHYSICAL or CHEMISTRY, PHARMACEUTICAL
- patent medicines
Index DRUGS
- percolation
Index CHEMISTRY, PHARMACEUTICAL
- + petrolatum, liquid
Index MINERAL OIL
- + pharmacotherapy
Index DRUG THERAPY
- + phosphorescence
Index LUMINESCENCE
- physical activity (of a drug)
Index CHEMISTRY, PHYSICAL if in vitro
*pharmacodynamics if in vivo
- pills
Index CAPSULES or TABLETS
- + plantago
Index PSYLLIUM
- plasters
Index *administration & dosage or BANDAGES if applicable

- + podophyllin (Provisional)
Index PODOPHYLLUM
- + polytetrafluoroethylene
Index FLUOROCARBON POLYMERS
- pomades
Index OINTMENTS
- posology
Index *administration & dosage
- poultices
Index *administration & dosage or BANDAGES if applicable
- + prescription fees
Index FEES, PHARMACEUTICAL
- + prescription insurance
Index INSURANCE, PHARMACEUTICAL SERVICES
- + preservatives, pharmaceutical
Index PHARMACEUTIC AIDS
- + prolonged-action preparations
Index DELAYED-ACTION PREPARATIONS
- proprietary drugs
Index DRUGS
- pulverization
Index POWDERS
- purgatives
Index CATHARTICS
- purification
Index *isolation & purification
- + pustulants
Index IRRITANTS
- qualitative determination
Index *analysis
- quantitative determination
Index *analysis
- + reagents
Index INDICATORS AND REAGENTS
- rectal administration
Index *administration & dosage and SUPPOSITORIES or ENEMA if applicable
- + resinat
Index ION EXCHANGE RESINS
- + royal jelly
Index BEES
- + rubefacients
Index IRRITANTS
- + rye
Index GRAIN
- + saccharin
Index SWEETENING AGENTS
- + scillaren
Index SQUILL
- + scintillation counter
Index RADIOMETRY
- + scopolamine derivatives
Index TROPANES

- + sedatives
 - Index HYPNOTICS AND SEDATIVES
- separation
 - Index *isolation & purification
- + snuff
 - Index TOBACCO
- + spectroscopy
 - Index SPECTRUM ANALYSIS
- + spices
 - Index CONDIMENTS
- spirits
 - Index SOLUTIONS or ALCOHOL, ETHYL if applicable
- standards
 - Index *standards
- structure/activity relations
 - Index CHEMISTRY (NIM) and *pharmacodynamics
- subarachnoid injection
 - Index INJECTIONS, INTRATHECAL
- subdural injection
 - Index INJECTIONS, INTRATHECAL
- + sustained-release preparations
 - Index DELAYED-ACTION PREPARATIONS
- syrups
 - Index VEHICLES and appropriate sugar term
- + tarichatoxin
 - Index TETRODOTOXIN
- taste disguisers
 - Index FLAVORING AGENTS
- + teflon
 - Index FLUOROCARBON POLYMERS
- TFE
 - Index FLUOROCARBON POLYMERS
- + therapeutics committee
 - Index PHARMACY AND THERAPEUTICS COMMITTEE
- tincture
 - Index SOLUTIONS
- tolerance
 - Index specific drug (IM)
DRUG TOLERANCE (NIM)
- + toothpaste
 - Index DENTIFRICES
- topical administration
 - Index *administration & dosage
- triple-blind
 - Index with Check tag CLINICAL RESEARCH
- + tritons
 - Index SURFACE-ACTIVE AGENTS
- troches
 - Index TABLETS
- + turbidimetry
 - Index DENSITOMETRY

- + tweens
Index SURFACE-ACTIVE AGENTS
- unguents
Index OINTMENTS
- urinary levels
Index *urine
- utilization (as stockpiling)
Index specific drug (IM)
DRUG UTILIZATION (NIM)
- utilization (metabolic)
Index *metabolism
- + varnish
Index PAINT
- + vesicants
Index IRRITANTS
- weight (as measure)
Index WEIGHTS AND MEASURES
- weight (of substances)
Index CHEMISTRY, PHYSICAL
or CHEMISTRY, PHARMACEUTICAL as applicable
- + wetting agents
Index SURFACE-ACTIVE AGENTS
- + withdrawal symptoms
Index DRUG WITHDRAWAL SYMPTOMS

APPENDIX VI

Pharmacy, Pharmacology and Toxicology Journal

Coverage in INDEX MEDICUS

This is a list of journals from the fields of pharmacy, pharmacology and toxicology indexed in INDEX MEDICUS. Select titles have been extracted from the Subject Listing of the LIST OF JOURNALS INDEXED IN INDEX MEDICUS (LJI) from under the entries "Anesthesiology", "Botany", "Chemistry", "Pharmacy", and "Pharmacology."

The list of journals here will be of greater value to searchers and users of MEDLARS products than to indexers. For this reason, we are citing for each journal title, the journal title code (JTC) which is used for searching the MEDLARS magnetic tapes for specific journals.

As in the LJI, the s) preceding a title indicates a journal indexed selectively.

Note: Distinguish between O (the letter) and Ø (zero) in JTC codes

Journal Title	Abbreviation	JTC
ACTA ANAESTHESIOLOGICA (Padova)	Acta Anaesthesiol (Padova)	Ø7G
ACTA ANAESTHESIOLOGICA BELGICA (Bruxelles)	Acta Anaesthesiol Belg	Ø82
ACTA ANAESTHESIOLOGICA SCANDINAVICA (Aarhus)	Acta Anaesthesiol Scand	Ø80
ACTA PHARMACEUTICA HUNGARICA (Budapest)	Acta Pharm Hung	1P8
ACTA PHARMACEUTICA SINICA (Peking)	Acta Pharm Sin	1PU
ACTA PHARMACEUTICA SUECICA (Stockholm)	Acta Pharm Suec	1Q5
ACTA PHARMACOLOGICA et TOXICOLOGICA (Kobenhavn)	Acta Pharmacol Toxicol (Kbh)	1QG
ACTA PHARMACOLOGICA et TOXICOLOGICA. SUPPLEMENT (Kobenhavn)	Acta Pharmacol Toxicol [Suppl] (Kbh)	1QK
ACTA PHYSIOLOGICA et PHARMACOLOGICA NEERLANDICA (Amsterdam)	Acta Physiol Pharmacol Neerl	1SW
ACTA POLONIAE PHARMACEUTICA (Warszawa)	Acta Pol Pharm	1 VC

ACTUALITES PHARMACOLOGIQUES (Paris)	Actual Pharmacol (Paris)	2GQ
ADVANCES in CHEMOTHERAPY (New York)	Adv Chemother	2K3
ADVANCES in DRUG RESEARCH (London)	Adv Drug Res	2LB
ADVANCES in PHARMACEUTICAL SCIENCES (London)	Adv Pharm Sci	20V
ADVANCES in PHARMACOLOGY (New York)	Adv Pharmacol	20Z
ADVANCES in TRACER METHODOLOGY (New York)	Adv Tracer Methodol	2PM
AGRESSOLOGIE (Paris)	Agressologie	31I
s) AMERICAN JOURNAL of BOTANY (Oxford, Ohio)	Am J Bot	3DF
AMERICAN JOURNAL of HOSPITAL PHARMACY (Washington)	Am J Hosp Pharm	31Ø
AMERICAN JOURNAL of PHARMACY and the SCIENCES SUPPORTING PUBLIC HEALTH (Philadelphia)	Am J Pharm	3SE
ANAESTHESIA (London)	Anaesthesia	4MC
ANAESTHESIST (Berlin)	Anaesthetist	4MY

ANESTHESIA and ANALGESIA; CURRENT RESEARCHES (Cleveland)	Anesth Analg (Cleve) 4R8
ANESTHESIA, ANALGESIE, REANIMATION (Paris)	Anesth Analg (Paris) 4RU
ANESTHESIOLOGY (Philadelphia)	Anesthesiology 4SG
ANNALES PHARMACEUTIQUES FRANCAISES (Paris)	Ann Pharm Fr 5UY
ANNUAL REVIEW of PHARMACOLOGY (Palo Alto)	Annu Rev Pharmacol 6E3
ANTIBIOTICA (Roma)	Antibiotica 6FQ
- ANTIBIOTICA et CHEMOTHERAPIA (Basel)	Antibiot Chemother (Basel) 6F4
- ANTIBIOTIKI (Moskva)	Antibiotiki 6GC
ANTIMICROBIAL AGENTS and CHEMOTHERAPY (Detroit)	Antimicrob Agents Chemother 6HK
- APPLIED THERAPEUTICS (Toronto)	Appl Ther 6KM
ARCHIV der PHARMAZIE und BERICHTE der DEUTSCHEN PHARMAZEUTISCHEN GESELL- SCHAFT (Weinheim)	Arch Pharm (Weinheim) 8AC

ARCHIV für TOXIKOLOGIE; FUEHNER-WIELANDS SAMMLUNG von VERGIFTUNGS-FÄELEN (Berlin)	Arch Toxikol	8JI
ARCHIVES INTERNATIONALES de PHARMACO-DYNAMIE et de THERAPIE (Gand)	Arch Int Pharmacodyn Ther	7EK
ARCHIVIO ITALIANO di SCIENZE FARMACOLOGICHE (Modena)	Arch Ital Sci Farmacol	7MI
ARCHIVOS del INSTITUTO de FARMACOLOGIA EXPERIMENTAL (Madrid)	Arch Inst Farmacol Exp (Madr)	7AW
ARHIV za HIGIJENU RADA i TOKSIKOLOGIJIU (Zagreb)	Arh Hig Rada Toksikol	8MK
ARZNEIMITTEL-FORSCHUNG (Aulendorf)	Arzneim Forsch	91U
BIOCHEMICAL PHARMACOLOGY (New York)	Biochem Pharmacol	9Z4
BOLLETTINO CHIMICO FARMACEUTICO (Milano)	Boll Chim Farm	AKP
BRITISH JOURNAL of ANAESTHESIA (Altringham)	Br J Anaesth	AUO
BRITISH JOURNAL of PHARMACOLOGY (London)	Br J Pharmacol	BPO
BULLETIN of NATIONAL INSTITUTE of HYGIENIC SCIENCES (Tokyo)	Bull Natl Inst Hyg Sci (Tokyo)	BQ8

Journal Title

Abbreviation

JTC

BULLETIN of the PARENTERAL DRUG ASSOC-
IATION (Philadelphia)

BULL Parenter Drug Assoc
BSG

BULLETIN OF PHARMACEUTICAL RESEARCH
INSTITUTE (Takatsuki)

Bull Pharm Res Inst
(Takatsuki)
BSW

CAHIERS d'ANESTHESIOLOGIE (Paris)
CANADIAN ANAESTHETISTS' SOCIETY JOURNAL
(Toronto)

Cah Anesthesiol
Can Anaesth Soc J
CG7

CANADIAN JOURNAL of PHYSIOLOGY and
PHARMACOLOGY (Ottawa)

Can J Physiol Pharmacol
CJM

CANCER CHEMOTHERAPY REPORTS (Bethesda)

Cancer Chemother Rep
CNP

CANCER CHEMOTHERAPY REPORTS . SUPPLEMENT
(Bethesda)

Cancer Chemother Rep [Suppl]
CMW

CESKOSLOVENSKA FARMACIE (Praha)

Cesk Farm
CSU

s) CHEMICAL and PHARMACEUTICAL BULLETIN
(Tokyo)

Chem Pharm Bull (Tokyo)
CP

CHEMOTHERAPY (Basel)

Chemotherapy
D15

CLINICA TERAPEUTICA (Roma)

Clin Ter
DKN

CLINICAL ANESTHESIA (Philadelphia)

Clin Anesth
DBS

Journal Title

Abbreviation

JTC

CLINICAL PHARMACOLOGY and THERAPEUTICS
 (St. Louis)

CURRENT MEDICINE and DRUGS (London)

CURRENT THERAPEUTIC RESEARCH (New York)

DANSK TIDSSKRIFT for FARMACI (Kobenhavn)

DRUG and THERAPEUTICS BULLETIN (London)

EKSPERIMENTAL'NAYA KHIRURGIYA i
 ANESTEZIOLOGIA (Moskva)

ERGEBNISSE des PHYSIOLOGIE, BIOLOGISCHEN
 CHEMIE und EXPERIMENTELLEN PHARMAKO-
 LOGIE (Berlin)

EUROPEAN JOURNAL of PHARMACOLOGY
 (Amsterdam)

FARMACO; EDIZIONE PRATICA (Pavia)

FARMACO; EDIZIONE SCIENTIFICA (Pavia)

FARMAKOLOGIIA i TOKSIKOLOGIIA (Moskva)

FARMATSEVTYCHNYI ZHURNAL (Kiev)

FARMATSIIA (Moskva)

Clin Pharmacol Ther

Curr Med Drugs

Curr Ther Res

Dan Tidsskr Farm

Drug Ther Bull

Eksp Khir Anesteziol

Ergeb Physiol

Eur J Pharmacol

Farmaco [Prat]

Farmaco [Sci.]

Farmakol Toksikol

Farm Zh

Farmatsiiia

DHR

DUR

DWK

DYX

EC8

EE7

ELP

EN5

ESX

ET7

ETR

ESN

EU6

FOLIA PHARMACOLOGICA JAPONICA (Kyoto)	Folia Pharmacol Jap	F2X
FOOD and COSMETICS TOXICOLOGY (Oxford)	Food Cosmet Toxicol	F3W
GIORNALE ITALIANO di CHEMIOTERAPIA (Milano)	G Ital Chemoter	FBJ
HINDUSTAN ANTI-BIOTICS BULLETIN (Primpri)	Hindustan Antibiot Bull	G81
HIPPOKRATES (Stuttgart)	Hippokrates	G8B
INDIAN JOURNAL of PHYSIOLOGY and PHARMACOLOGY (Lucknow)	Indian J Physiol Pharmacol	GLD
INTERNATIONAL ANESTHESIOLOGY CLINICS (Boston)	Int Anesthesiol Clin	GP4
INTERNATIONALE ZEITSCHRIFT fur KLI- NISCHE PHARMAKOLOGIE, THERAPIE und TOXIKOLOGIE (Munchen)	Int Z Klin Pharmakol Ther Toxikol	GUY
JAPANESE JOURNAL of ANESTHESIOLOGY (Tokyo)	Jap J Anesthesiol	KHR
JAPANESE JOURNAL of ANTIBIOTICS (Tokyo)	Jap J Antibiot	KHV
JAPANESE JOURNAL of PHARMACOLOGY (Kyoto)	Jap J Pharmacol	KO7
JOURNAL of the AMERICAN PHARMACEUTICAL ASSOCIATION (Washington)	J Am Pharm Assoc	H8N

JOURNAL of ANTIBIOTICS (Tokyo)	J Antibiot (Tokyo)	HCF
JOURNAL of CLINICAL PHARMACOLOGY and the JOURNAL of NEW DRUGS (New York)	J Clin Pharmacol	HTB
JOURNAL of MEDICINAL CHEMISTRY (Washington)	J Med Chem	JOF
JOURNAL of PHARMACEUTICAL SCIENCES (Washington)	J Pharm Sci	J07
JOURNAL of the PHARMACEUTICAL SOCIETY of JAPAN (Tokyo)	J Pharm Soc Jap	JON
JOURNAL de PHARMACIE de BELGIQUE (Bruxelles)	J Pharm Belg	JNB
JOURNAL of PHARMACOLOGY and EXPERI- MENTAL THERAPEUTICS (Baltimore)	J Pharmacol Exp Ther	JP3
JOURNAL of PHARMACY and PHARMACOLOGY (London)	J Pharm Pharmacol	JNR
s) JOURNAL of SCIENTIFIC INSTRUMENTS; JOURNAL of PHYSICS E (London)	J Sci Instrum	K27
s) LLOYDIA; a QUARTERLY JOURNAL of PHARMA- COGNOSY and ALLIED BIOLOGICAL SCIENCES (Cincinnati)	Lloydia	L7A
MEDICAL LETTER on DRUGS and THERAPEUTICS (New York)	Med Lett Drugs Ther	M52

MEDITSINSKAIA PROMYSHLENNOST' SSSR
(Moskva)

Med Prom SSSR

MIKROCHIMICA ACTA (Wien)

MA6

MINERVA ANESTESIOLOGICA (Torino)

MZW

MITTEILUNGEN der DEUTSCHEN PHARMAZEUTISCHEN GESELLSCHAFT und der PHARMAZEUTISCHEN GESELLSCHAFT der DDR issued with ARCHIV der PHARMAZIE und BERICHTE der DEUTSCHEN PHARMAZEUTISCHEN GESELLSCHAFT (Weinheim)

NDQ

MODERN TREATMENT (New York)

NG6

MOLECULAR PHARMACOLOGY (New York)

NGR

NATIONAL CLEARINGHOUSE for POISON CONTROL CENTERS; BULLETIN (Washington)

NRS
Cent Bull

NAUNYN-SCHMIEDEBERGS ARCHIV fur PHARMAKOLOGIE (Berlin)

NTQ
Pharmakol

NEUROPHARMACOLOGY (Oxford)

NZB
Neuropharmacology

OMNIA MEDICA et THERAPEUTICA (Pisa)

OHC
Omnia Med Ther

PATOLOGICHESKAIA FIZIOLOGIIA i EKSPERIMENTAL'NAIA TERAPIIA (Moskva)	OTF
PESTICIDES MONITORING JOURNAL (Atlanta)	Patol Fiziol Eksp Ter
PHARMACEUTICA ACTA HELVETIAE (Zurich)	OZV
PHARMACEUTISCH WEEKBLAD (Den Haag)	PØE
PHARMACOLOGICAL REVIEWS (Baltimore)	P2X
PHARMACOLOGY (Basel)	P43
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PHARMAZIE (Berlin)	P4D
s) PLANTA MEDICA (Stuttgart)	Planta Med
PROCEEDINGS of the WESTERN PHARMACOLOGY SOCIETY (Seattle)	PyG
PROGRESS in CHEMICAL TOXICOLOGY (New York)	Prog Chem Toxicol
PROGRESS in DRUG RESEARCH (Basel)	QØN
PROGRESS in MEDICINAL CHEMISTRY (London)	QØS
PSYCHOPHARMACOGIA (Berlin)	Q31
	QGE

Journal Title

Abbreviation

JTC

PSYCHOPHARMACOLOGY BULLETIN; NATIONAL CLEARINGHOUSE for MENTAL HEALTH INFORMATION (Bethesda)	QG1
RASSEGNA INTERNAZIONALE di CLINICA e TERAPIA (Napoli)	QV5
RATIONAL DRUG THERAPY (Philadelphia)	QYT
s) RESIDUE REVIEWS; RESIDUES of PESTICIDES and OTHER FOREIGN CHEMICALS in FOODS and FEEDS (New York)	R7T
s) REVIEW of SCIENTIFIC INSTRUMENTS (New York)	T62
REVISTA BRASILEIRA de ANESTESIOLOGIA (Rio de Janeiro)	RG1
REVISTA ESPANOLA de ANESTESIOLOGIA y REANIMACION (Barcelona)	RSX
REVUE d'IMMUNOLOGIE et de THERAPIE ANTIMICROBIENNE (Paris)	S7L
STEROIDS (San Francisco)	V1Ø
s) SUDHOFF'S ARCHIV; ZEITSCHRIFT fur WISSENSCHAFTSGESCHICHTE (Wiesbaden)	V84

JTC

Journal Title Abbreviation

TERATOLOGY; JOURNAL of ABNORMAL
DEVELOPMENT (Philadelphia)

Teratology VM8

THERAPEUTIQUE (Paris)

Therapeutique VPZ

THERAPIE (Paris)

Therapie VQ6

THERAPIE der GEGENWART (Berlin)

Ther Ggw VOQ

TOXICOLOGY and APPLIED PHARMACOLOGY
(New York)

Toxicol Appl Pharmacol VWO

TOXICON (Oxford)

Toxicon VWT

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